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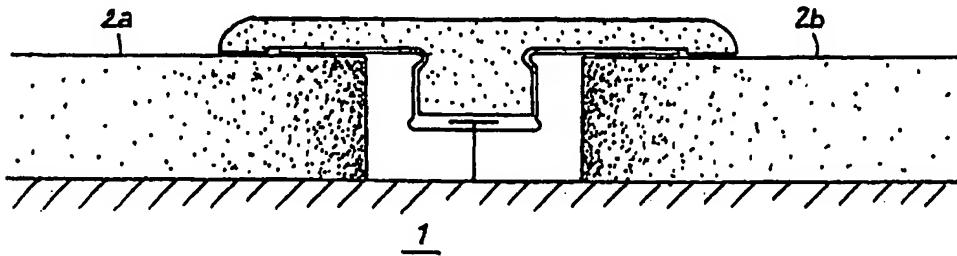


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(21) International Application Number: <b>PCT/SE99/01426</b> (22) International Filing Date: 23 August 1999 (23.08.99)  (30) Priority Data: 9802946-5 2 September 1998 (02.09.98) SE  (71) Applicant ( <i>for all designated States except US</i> ): PERSTORP FLOORING AB [SE/SE]; Strandridaregatan 8, S-231 25 Trelleborg (SE).  (72) Inventor; and (75) Inventor/Applicant ( <i>for US only</i> ): CARLSSON, Bengt-Göran [SE/SE]; Järle Kvarn, S-713 91 Nora (SE).  (74) Agent: STENBERG, Yngve; Perstorp AB, S-284 80 Perstorp (SE).	(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
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(54) Title: A METHOD AND A FILLET MEANS TO COVER JOINTS, OR TO CREATE PASSAGES IN CONNECTION TO SURFACE COATINGS, PREFERABLY FLOORING SURFACES



(57) Abstract

The present invention relates to a method and to fillet means to cover joints, or to create passages in connection to surface coatings, preferably flooring surfaces. The method is characterized in that a profile fillet having an essentially U-shaped recess and adjacent shanks is placed with at least one of the shanks towards the upper surface of the flooring, that fastening means are brought down through the bottom of the U-shaped recess in the profile fillet and are attached to the bedding onto which the flooring is placed, and that a joint fillet with a projection fitting into the U-shaped recess in the profile fillet is pressed down in said recess. The fillet arrangement is characterized in a profile fillet with an essentially U-shaped recess and adjacent shanks to be placed with at least one of the shanks towards the upper surface of the flooring, and a covering joint fillet with a projection fitting into the U-shaped recess in the profile fillet, said joint fillet when being pressed down in said recess will be locked in said recess and will cover and overlap the shank (shanks) of the recess.

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**A method and a fillet means to cover joints, or to create passages in connection to surface coatings, preferably flooring surfaces.**

The present invention relates to a method and to fillet means to cover joints, or to create passages in connection to surface coatings, preferably flooring surfaces.

The present invention can be used on different kind of surface coatings having a thickness from about 5 mm up to 20 - 25 mm. The invention will be described below in connection to flooring surfaces. It shall be noticed that the principle according to the invention can be used at joints or in passages/endings of all kinds of coatings within the thickness dimensions stated above.

The joining of floor coatings can be done in different ways. This invention is related to a method using covering fillets. Till now different fillets have been used adapted for each coating thickness. One covering fillet on the market has used an underlaying profil fillet of metal having a barbed recess. The profile fillet is attached laying onto the bedding (underfloor), whereafter the covering fillet, with a projection adapted to be received in the barbed recess, is pushed down in said recess. Then the fillet will rest upon the bedding which means that one fillet is needed for each covering thickness. This technique demands an even bedding and that one of or the two covering borders is laying flat to the bedding. The advantage with this type of covering fillet is that screws or nails will not be visible from outside.

The object of the present invention is to obtain a method and a fillet arrangement where the one and same kind and size of underlaying fillet for attaching to the bedding and the one and same kind and size of covering fillet can be used together with different covering thicknesses. The advantages hereby are many, i.a. regarding stock holding and manufacturing of the profil fillet and of the covering fillet, but also an essential simplification of the handling and assembling of the profile fillet and covering fillet is achieved.

Another object of the present invention is to obtain a method and a fillet arrangement being suited for endings or passages in surface coverings of different thicknesses.

Yet another object of the invention is to obtain a method and a fillet arrangement allowing a movement between an underlaying floor and a

covering flooring, i.e. an arrangement capable of maintaining a correct covering of a joint, a passage or an ending at the flooring, also if a mutual displacement has been established between the underfloor and the flooring.

The objects mentioned above according to the invention are obtained by a method and a fillet arrangement having the characterizing clauses mentioned in the claims.

By a profile fillet having an essentially U-shaped recess and adjacent shanks placed with at least one of the shanks towards the upper surface of the flooring it is not necessary for said U-shaped recess to be placed directly towards the bedding onto which said flooring is placed. It is just for the thinnest flooring (for the current fillet being used) as the joining fillet, pressed down in the profile fillet, will bear towards the bedding. In all other applications there will be a distance between the bottom side of profile fillet and the bedding in a position where the joining fillet shall be installed. The pushing down load which can be executed onto the fillet will be taken up by the fastening means (preferably screws) keeping the profile fillet attached to the bedding. Thus these fastening means will just be tightened to a position where one or two of the shanks have come to bear on the edge or the edges of the flooring with a certain pressure. To facilitate the fastening of the profile fillet the adjacent shank (shanks) can have an angle being less than 90° in an unaffected position in relation to the vertical extension of said recess. This arrangement will make it easier for a professional to tighten the profile fillet in the bedding as he will have a visible indication of when the tightening is enough, i.e. when the shank or the shanks will bear flat against the edge (edges) of the flooring. After that it will be easy to correctly arrange a joint fillet with a recess fitting in the U-shaped recess in the profile fillet by a simple push into said recess.

The invention will now be described in connection to a couple of embodiments, where

Fig. 1A - 1C show different stages during assembling of a fillet arrangement covering a longitudinal joint between two floorings; and where

Fig. 2A and Fig. 2B show stages corresponding to Fig. 1B and 1C, but now under assembling of a fillet arrangement in connection to a flooring layer at a step nose.

In fig. 1A a bedding 1, two flooring layers 2a, 2b and a profile fillet 3 with shanks 3a and 3b are shown. The profile fillet 3 has a U-shaped recess 4 with inwardly extending rounds 5 intended to cooperate with undercut grooves 7 of the joint fillet 6 at the passage between the covering parts 8a and 8b of the joint fillet 6 and its projecting portion 9. At the bottom of the U-shaped recess rounds 10 are shown, the object of which facilitate a widening of the recess 4 when pushing down the projecting portion 9. In fig. 1B is shown how the profile fillet 3 is attached to the bedding 1 at a distance from said fillet with the aid of fastening means 11.

Finally fig. 1C shows the covering joint fillet 6 being snapped in place into the profile fillet 3. Hereby the shanks 3a, 3b of the profile fillet have been received in recesses 6a, 6b in the bottom side of the joint fillet 6. Thus said joint fillet 6 will bear upon the upper sides of the fastening means, which will take up any forces acting down on the joint fillet 6. This means that the risk for a trample down of the joint fillet 6 in the space between the floorings 2a and 2b and thus the risk of breaking the fillet has in fact been eliminated.

In fig. 2A the initial position to assemble a fillet arrangement 6' in connection to a flooring layer 2'a at the nose of a stair is shown. Here the profile fillet 3' has a vertical shank portion 3'c besides the shank portions 3'a and 3'b according to fig. 1. The fastening means 11'a is here completed with a fastening means 11'b to be attached to the bedding 1' at the forward end of the step nose. This fastening means 11'b will keep the profile fillet 3' against a bending down against the bedding. The covering portions 8'a, 8'b and 8'c of the joint fillet 6' have recesses 6'a and 6'c at their lower sides to receive the shanks 3'a - 3'c of the profile fillet 3', and maybe also to receive the head of the fastening means 11'b.

Thus the fillet arrangement according to fig. 2 can be used at different thicknesses of the flooring layer 2'a. For much thicker flooring layers the covering portion 8'c of the joint fillet 6' can be somewhat longer as the shank 3'c of the profile fillet 3' is.

The invention is not restricted to the embodiments shown in the drawings but modifications can be made within the scope of the following claims.

## CLAIMS

1. A method to cover joints or to form passages in connection to surface coatings, characterized in that a profile fillet having an essentially U-shaped recess and adjacent shanks is placed with at least one of its shanks towards the upper surface of the flooring, that fastening means are brought down through the bottom of the U-shaped recess in the profile fillet and are attached to the bedding onto which the flooring is placed, and that a joint fillet with a projection fitting into the U-shaped recess in the profile fillet is pressed down in said recess.

2. A method according to claim 1, characterized in that the profile fillet and the joint fillet are placed on a landing to form a nose of a stair, a first shank being brought to bear on the flooring of the landing and the second shank, essentially perpendicular to said first shank being brought to bear on the almost vertical front side of the landing.

3. A method according to claim 1, characterized in that the placement and attachment of the profile fillet towards the flooring in using fastening means are performed in such a way that the bottom of the U-shaped recess at the profile fillet will be situated at a distance from the upper side of the bedding, and that the lower side of the joint fillet at the depression into the recess of the profile fillet will bear and rest on the upper sides of the fastening means.

4. A fillet arrangement to cover joints or to form passages in connection to surface coatings, and to perform the method according to claim 1, characterized in a profile fillet with an essentially U-shaped recess and adjacent shanks to be placed with at least one of the shanks towards the upper surface of the flooring, and

a covering joint fillet with a projection fitting into the U-shaped recess in the profile fillet, said joint fillet, when being pressed down in said recess, will be locked in said recess and will cover and overlap the shank (shanks) of the recess.

5. An arrangement according to claim 4 to be used in covering a longitudinal joint in the flooring, characterized in that the connecting shanks of the profile fillet are at the same level.

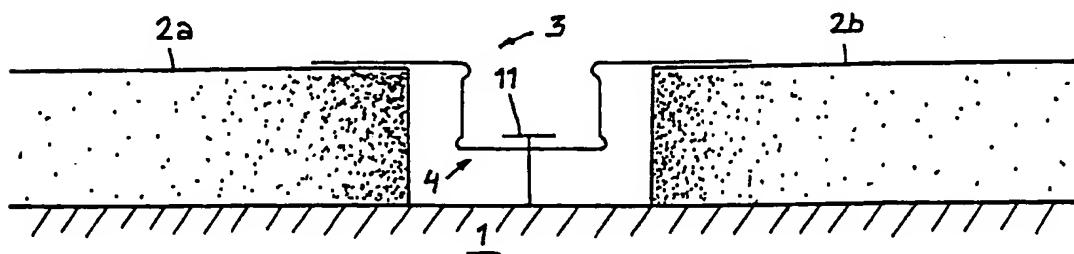
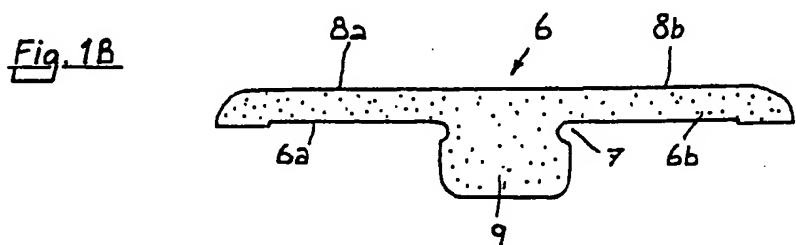
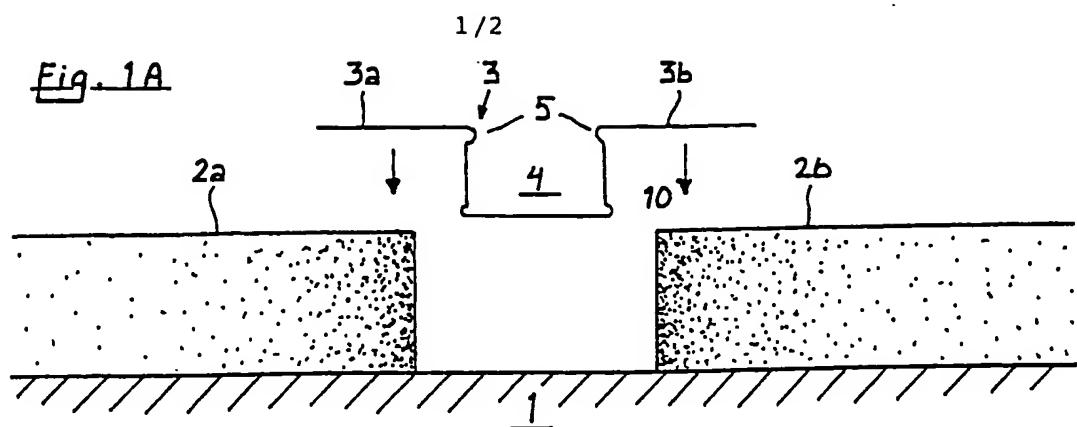
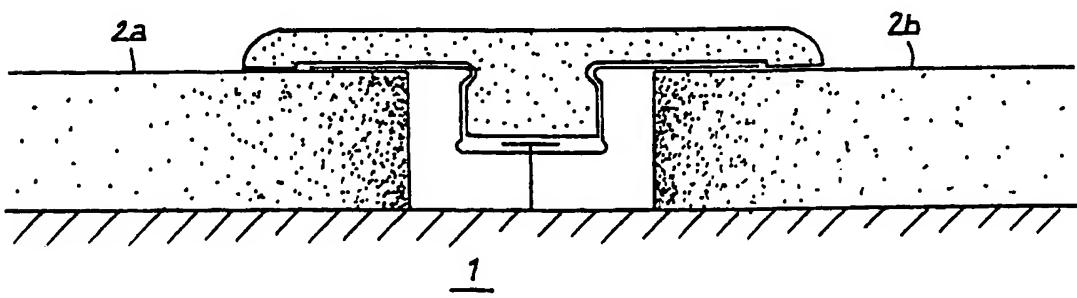
6. An arrangement according to claim 4 to be used in covering a longitudinal joint in the flooring, characterized in that the connecting shanks of the profile fillet are at different levels.

7. An arrangement according to claim 5 or 6, characterized in that the connecting shanks of the profile fillet are extended, in a not fastened position of the profile fillet, in a direction being less than 90° in relation to a vertical plane or to the recess of the profile fillet.

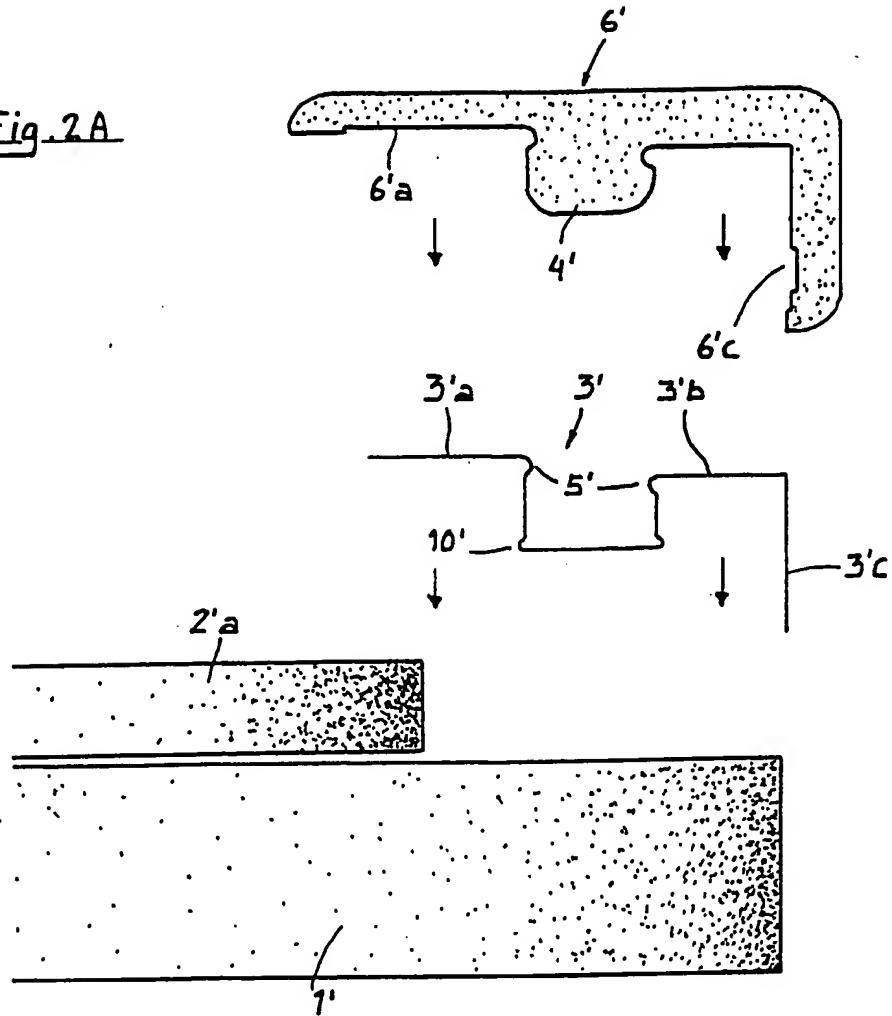
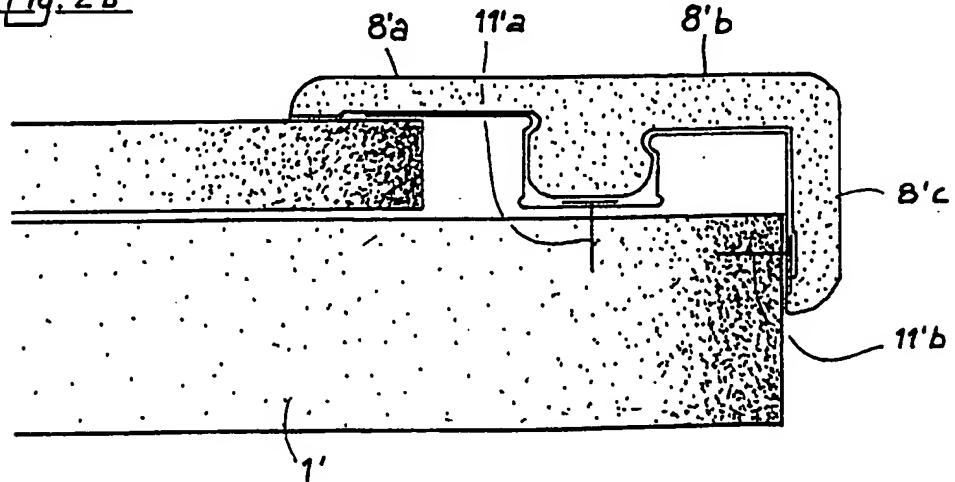
8. An arrangement according to claim 4 to be used in connection to the flooring at the nose of a stair, characterized in that the connecting shanks of the profile fillet are arranged in planes being essentially perpendicular to each other.

9. An arrangement according to any of claims 4 to 8, characterized in that the recess of the covering joint fillet has under cut grooves, into which grooves rounds in the profile fillet are insertable at an assembled position of said joint fillet.

10. An arrangement according to any of the claims 4 to 9, characterized in that the bottom side of the covering joint fillet has recesses to receive the shank (shanks) of the profile fillet.

Fig. 1C

2/2

Fig. 2AFig. 2B

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE 99/01426

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC6: E04B 1/68, E04F 15/14**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC6: E04B, E04F**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2257040 A (SEVILLE RODNEY HOLT), 6 January 1993 (06.01.93), figure 1, abstract --	1-10
A	US 2121213 A (F.M. SMALL), 21 June 1938 (21.06.38), figures 26-28 --	1-10
A	US 2803858 A (M.E. RADER), 27 August 1957 (27.08.57), figure 1 --	1-10
A	US 3667177 A (E.G. BIELA), 6 June 1972 (06.06.72), figure 5, abstract --	1-10

Further documents are listed in the continuation of Box C.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9822678 A1 (PERSTORP FLOORING AB), 28 May 1998 (28.05.98), figure 1, abstract -- -----	1-10

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

02/11/99

International application No.  
PCT/SE 99/01426

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
GB 2257040 A	06/01/93	NONE		
US 2121213 A	21/06/38	NONE		
US 2803858 A	27/08/57	NONE		
US 3667177 A	06/06/72	NONE		
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